

INSTRUMENTED DEEP TILLAGE IMPLEMENT

Abstract of the Disclosure

An instrument and method for variable depth tillage is provided. A soil engaging implement has a pair of load cells and at least one strain gauge set mounted thereon. The load cells are used to determine a linear trend of topsoil resistance pressure change with depth as the soil engaging implement is drawn through the soil. The strain gauges are used to measure torque on the soil engaging implement caused by the load transmitted through the at least two load cells as well as the load applied to the point of the soil engaging implement. The linear trend of topsoil resistance pressure change with depth and the torque on the soil engaging implement are then used to determine both measured and predicted mechanical soil resistance to penetration applied to the point and the difference between the two values serves as an input for tillage depth adjustment.